

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-20 (canceled)

Claim 21 (Currently amended): A method of handling objects, the method comprising:

moving at least one arm of a handling system for the handling of at least one object in space relative to a fixed reference system

wherein the locations of the arm are determined with reference to the fixed reference system, wherein the fixed reference system comprises a plurality of transmitters spatially arranged around the at least one arm handling system to define a volume of space; and

locating [[a]] the plurality of transmitters in the space around the handling system as field sources of at least one physical field for the location of the arm within the volume of space.

Claim 22 (previously presented): A method in accordance with claim 21, wherein the at least one physical field is an acoustic, optical and/or electromagnetic field.

Claim 23 (previously presented): A method in accordance with claim 22, wherein the at least one physical field includes a unidirectional locating system for locating of the arm.

Claim 24 (previously presented): A method in accordance with claim 21, wherein a robot arm is used as the arm.

Claim 25 (previously presented): A method in accordance with claim 21, wherein a gripping arm of a robot which takes up and/or moves the object is used as the arm.

Claim 26 (previously presented): A method in accordance with claim 21, wherein an exchangeable tool or a tool fixedly provided at the arm is handled as the object in the space.

Claim 27 (previously presented): A method in accordance with claim 26, wherein the relative orientation of the tool to the arm is determined, in particular independently of the locating system.

Claim 28 (previously presented): A method in accordance with claim 26, wherein the tool is supplied with energy in a wireless manner, in particular inductively or by means of an accumulator.

Claim 29 (previously presented): A method in accordance with claim 26, wherein control data of the tool are transmitted in a wireless manner, in particular inductively or by radio.

Claim 30 (previously presented): A method in accordance with claim 21, wherein the locating system is calibrated by self-calibration.

Claim 31 (withdrawn): An apparatus for the handling of objects comprising at least one arm for the handling of at least one object; and means for determining the location of the arm relative to a reference system, in particular a fixed reference system, characterized in that a locating system is provided for the determination of the location of the arm with reference to the reference system fixed by the locating system.

Claim 32 (withdrawn): An apparatus in accordance with claim 31, characterized in that the locating system has at least one means for the setting up of a physical field, in particular of an acoustic, optical and/or electromagnetic field.

Claim 33 (withdrawn): An apparatus in accordance with claim 31, characterized in that the locating system is made as a unidirectional locating system, in particular in the manner of the so-called global positioning system, GPS.

Claim 34 (withdrawn): An apparatus in accordance with claim 31, characterized in that the arm is made as a robot arm.

Claim 35 (withdrawn): An apparatus in accordance with claim 34, characterized in that the robot arm has a gripping element with which the object can be taken up and/or moved.

Claim 36 (withdrawn): An apparatus in accordance with claim 31, characterized in that the object is an exchangeable tool or a tool fixedly provided at the arm.

Claim 37 (withdrawn): An apparatus in accordance with claim 36, characterized in that means, in particular means independent of the locating system for the determination of the relative orientation of the tool to the arm, are provided at or in the arm and/or at or in the tool.

Claim 38 (withdrawn): An apparatus in accordance with claim 31, characterized in that means are provided for the wireless energy supply of the tool, in particular means for the inductive energy supply or an accumulator.

Claim 39 (withdrawn): An apparatus in accordance with claim 31, characterized in that means are provided for the wireless transmission of control data of the tool, in particular means for inductive transmission or for transmission by radio.

Claim 40 (withdrawn): An apparatus in accordance with claim 31, characterized in that means are provided for the self-calibration of the locating system.

Claim 41 (previously presented): A method in accordance with claim 21, wherein the plurality of transmitters of the fixed reference system are directly proximate to the arm and are electronically coupled to a control computer.

Claim 42 (currently amended): A method in accordance with claim 41, wherein a ~~transmitter/receiver~~ communications element of the arm receives signals from the plurality of transmitters and transmits the received signals to the control computer for determination of the locations of the arm within the fixed reference system.

Claim 43 (previously presented): A method in accordance with claim 42, further comprising:

receiving, at the control computer, an independent signal from an independent proximity sensor located in a tool-holding grip of the arm;
measuring the orientation of a tool relative to the tool-holding grip or arm according to the received independent signal; and
compensating a position of the tool-holding grip according to the measured orientation.

Claim 44 (new): A method in accordance with claim 21, wherein the transmitters are structurally affixed in respective locations relative to the arm.

Claim 45 (new): A method in accordance with claim 44, wherein the transmitters comprise sound sources.

Claim 46 (new): A method in accordance with claim 44, wherein the transmitters comprise light sources.

Claim 47 (new): A method in accordance with claim 44, wherein the arm and transmitters are submerged in water.